> difficulty be distinguished. We were investigating this particle when Claude (1940) announced his discovery of the presence of submicroscopic particulates in clarified saline extracts of embryo chicks. (1943, p. 329)

Bensley and his graduate students pioneered many of the advances for which Claude and the Rockefeller group were to get most of the credit. In 1943, Cowdry referred to Bensley as "the acknowledged founder of the new cytology" and adds, "As the lesser figures shrink and are forgotten his stature will grow" (1943, p. 8). Cowdry's prophecy, however, turned out to be erroneous as Claude and the Rockefeller group rapidly eclipsed Bensley.[5] One reason might well be Bensley's advanced age when he was pursuing this research – he was already professor emeritus. Another, perhaps not trivial, factor is that Bensley did not think of mitochondria as permanent structures but as coacervates that appear and then are reabsorbed into the protoplasm (a view Bensley held until the end of his career, see Bensley, 1953). The most important factor that made Claude and his laboratory the crucial locus for developing cell biology is that they – not Bensley – convincingly established the role of the mitochondrion in cellular energetics, thereby opening the productive endeavor of linking function, determined biochemically, to structure, identified cytologically.

3. COMPETING INTERPRETATIONS OF FRACTIONS FROM NORMAL CELLS

Although both Bensley's group and Claude differentiated two fractions, their initial interpretations of how these related to cell structures conflicted. In appealing to Cowdry (1918) for information about mitochondrial size in arguing that his small particles were mitochondria, Claude ignored Bensley and Hoerr's more recent estimates. According to Bensley and Hoerr, mitochondria were considerably larger than Claude's small particles.

Claude (1941) discussed the differences between his fractions and Bensley's at length. He devised a way of separating two fractions through successive centrifugation runs. One consisted of smaller particles (the size of his original preparation) and the other of larger particles (the size Bensley had identified as mitochondria). Having distinguished them, Claude maintained

[5] The American Association of Anatomists named an award for Bensley, which is described in the following terms: "The R. R. Bensley Award recognizes 'rising stars' in cell biology, who have already advanced anatomy through the study of cell biology. The award is presented to someone who has made a distinguished contribution to the advancement of anatomy through discovery, ingenuity, and publications in the field of cell biology."